

<b>Notice of Allowability</b>	Application No.	Applicant(s)	
	10/707,249	YEN, YAO TUNG	
	Examiner	Art Unit	
	Dang T. Nguyen	2824	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--**

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 21 January 2005.
2. ☒ The allowed claim(s) is/are 1,2,4-18 and 20.
3. ☒ The drawings filed on 01 December 2003 are accepted by the Examiner.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☐ All    b) ☐ Some\*    c) ☐ None    of the:
  1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.


**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
6. ☐ CORRECTED DRAWINGS ( as "replacement sheets") must be submitted.
  - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review ( PTO-948) attached
    - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
  - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

- |   |  |
|---|--|
| 1. <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 5. <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)            |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                | 6. <input type="checkbox"/> Interview Summary (PTO-413),<br>Paper No./Mail Date _____. |
| 3. <input type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08),<br>Paper No./Mail Date _____ | 7. <input type="checkbox"/> Examiner's Amendment/Comment                               |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit<br>of Biological Material          | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance   |
|   | 9. <input checked="" type="checkbox"/> Other <u>Search history</u> .                   |

  
**VANTHUNGUYEN**  
**PRIMARY EXAMINER**

***Response to Amendment***

1. This office action is in response to applicant's amendment received on 1/21/05. Claims 3 and 19 have been canceled. Claims 1, 5, 9, 10, 17, and 20 have been amended. Claims 1 - 2, 4 - 18, and 20 are pending on this application. Claims 1, 5, 9, 10, 11, 17, and 20 are independent claims.

***Allowable Subject Matter***

2. Claims 1 - 2, 4 - 18, and 20 allowed.

The following is an examiner's statement of reasons for allowance:

**With respect to claim 1**, in addition to other elements in the respective claims, the prior art of record fails to teach or suggest "wherein a width of the input trace is matched to a sum of widths of branch traces branching from the first junction".

**With respect to claim 5**, in addition to other elements in the respective claims, the prior art of record fails to teach or suggest "wherein the input trace is N times wider than each of the branch traces in the plurality of branch traces".

**With respect to claim 9**, in addition to other elements in the respective claims, the prior art of record fails to teach or suggest "a trunk branch trace branching from the first junction; a second junction, receiving a signal driven from the input trace, through the first junction to the trunk branch trace; and a plurality of secondary branch traces that branch from the second junction; wherein the second junction outputs a signal to the plurality of secondary branch traces; wherein a second equivalent impedance is a reciprocal of a sum of reciprocals of second branch impedances of secondary branch

traces that branch from the second junction in the plurality of secondary branch traces ; wherein a trunk impedance of the trunk branch trace is adjusted to match the second equivalent impedance”

**With respect to claim 10**, the primary reason for indication of allowable subject matter is that the prior art fails to teach or suggest “wherein the input trace carries a true signal of a differential signal; a complement input trace ending at a complement junction, the complement input trace carrying a complement signal of the differential signal; a plurality of complement branch traces on the substrate, the plurality of complement branch traces branching from the complement junction to complement endpoints; wherein a first complement equivalent impedance is a reciprocal of a sum of reciprocals of complement branch impedances of complement branch traces branching from the complement junction in the plurality of complement branch traces; wherein a complement input impedance of the complement input trace is adjusted to match the first complement equivalent impedance, whereby the differential signal is carried by a pair of impedance-matched traces”.

**With respect to claim 11**, in addition to other elements in the respective claim, the prior art does not teach or suggest “an impedance-matched module having a third branch line in the plurality of wiring traces; a primary junction connecting an end of the input line to the first branch line, the second branch line, and to the third branch line; wherein a first equivalent impedance is a parallel combination of impedances of branches from the primary junction including a first impedance of the first branch line, a second impedance of the second branch line, and a third impedance of the third branch

line; wherein the input line has an input impedance that is matched to the first equivalent impedance by widening or thickening the input line”.

**With respect to claim 17**, in addition to other elements in the respective claim, the prior art does not teach or suggest “wherein a width of the input interconnect means is matched to a sum of widths of branch traces driven from the first junction means, including a first width of the first branch interconnect means and a second width of second branch interconnect means”.

**With respect to claim 20**, the primary reason for indication of allowable subject matter is that the prior art fails to teach or suggest “first trunk interconnect means for further distributing the signal from the first junction means, the first trunk interconnect means being a branch trace from the first junction means; third branch interconnect means for connecting the signal to a third chip on the substrate means; fourth branch interconnect means for connecting the signal to a fourth chip on the substrate means; and second junction means, receiving the signal from the first trunk interconnect means, for connecting the signal to the third branch interconnect means and to the fourth branch interconnect means, the second junction means being another junction of the wiring traces; wherein a trunk impedance of the first trunk interconnect means matches a secondary equivalent impedance of secondary branch traces driven from the second junction means, including the third and fourth branch interconnect means, whereby impedance is matched at the first and second junction means”.

3. The prior art made of record and considered pertinent to the applicant's disclosure does not teach or suggest the claimed limitations. Ghodsi and Sterns taken individually or in

Art Unit: 2824

combination, do not teach the claimed invention of wherein two spare memory cells store data of one bit as a whole, in combination with other limitations.

4. Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

#### ***Contact Information***

5. Any inquiry concerning this communication from the examiner should be directed to Dang Nguyen, who can be reached by telephone at (571) 272-1955. Normal contact times are M-F, 8:00 AM - 4:30 PM.

Upon an unsuccessful attempt to contact the examiner, the examiner's supervisor, Richard Elms, may be reached at (571) 272-1869.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist, whose telephone number is (703) 305-3900. The faxed phone number for organization where this application or proceeding is assigned is (703) 872-9306.

Information regarding the Status of an application may be obtained from the patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you

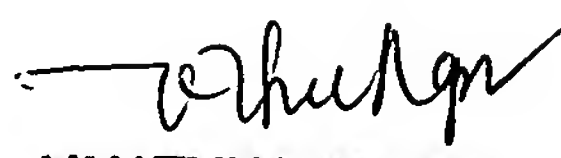
Application/Control Number: 10/707,249

Page 6

Art Unit: 2824

have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free) or [EBC@uspto.gov](mailto:EBC@uspto.gov).

Dang Nguyen 2/22/2005

  
**VANTHU NGUYEN**  
**PRIMARY EXAMINER**